DOCUMENT RESUME

ED 132 413 08 CE 009 204

TITLE	Vocational Education Curriculum Specialist (VECS). Module 12: Managing Vocational Education Programs. Study Guide. (Teaching/Learning Module).
INSTITUTION	American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C.
PUB DATE	76
CONTRACT	OEC-0-74-9286
NOTE	96p.; For related documents see CE 009 129-136 and CE 009 192-106
EDRS PRICE	MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS	*Class Management; Classroom Techniques; *Curriculum Development; Educational Strategies; Higher Education; *Instructional Design; Instructional Materials; Instructional Programs; Learning Modules; Management Systems; Post Secondary Education; *Program Administration; Secondary Education; Specialists; Study Guides; Teacher Education; *Vocational Education

ABSTRACT

One of 15 core modules in a 22-module series designed to train vocational education curriculum specialists (VECS), this guide is intended for use by both instructor and student in a variety of education environments, including independent study, team teaching, seminars, and workshops, as well as in more conventional classroom settings. The guide has five major sections. Part I, Organization and Administration, contains an overview and rationale, educational goals and performance objectives, recommended learning materials, and suggested reference materials. Part II, Content and Study Activities, contains the content outline arranged by goals. Study activities for each goal and its corresponding objectives follow each section of the content outline. Content focus is on development of an administrative management plan for a new course and on a variety of classroom management systems. Part III, Group and Classroom Activities, suggests classroom or group activities and discussions keyed to specific content in the outline and to specific materials in the list of references. Part IV, Student Self-Check, contains questions directly related to the goals and objectives of the module, which may be used as a pretest or posttest. Part V, Appendix, contains suggested responses to the study activities from part II and responses to the student self-checks. (HD)

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ED132413

VOCATIONAL EDUCATION CURRICULUM SPECIALIST

VECS

Module 12:

Managing Vocational Education Programs

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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STUDY GUIDE

(TEACHER/LEARNING MODULE)

CE 021 204

Developed and disseminated pursuant to Contract No. OEC-0-74-9286 from the U. S. Office of Education under Part I - Curriculum Development in Vocational and Technical Education, Vocational Education Amendments of 1968, Public Law 90-576

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American Institutes for Research
P.O. Box 1113
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1976

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-Study Guide-

Module 12

MANAGING VOCATIONAL EDUCATION PROGRAMS

This document is one of a series of teaching/learning modules designed to train Vocational Education Curriculum Specialists. The titles of all individually available documents in this series appear below:

INTRODUCTORY MODULES

1. The Scope of Vocational Education
2. Roles of Vocational Educators in Curriculum Management
3. Current Trends in Vocational Education
4. Organization of Vocational Education
5. Legislative Mandates for Vocational Education
6. The Preparation of Vocational Educators

CORE MODULES

1. Important Differences Among Learners
2. Learning Processes and Outcomes
3. Applying Knowledge of Learning Processes and Outcomes to Instruction
4. Assessing Manpower Needs and Supply in Vocational Education
5. Laying the Groundwork for Vocational Education Curriculum Design
6. Selecting Instructional Strategies for Vocational Education
7. Derivation and Specification of Instructional Objectives
8. Development of Instructional Materials
9. Testing Instructional Objectives
10. Fiscal Management of Vocational Education Programs
11. Introducing and Maintaining Innovation
12. Managing Vocational Education Programs
13. Basic Concepts in Educational Evaluation
14. General Methods and Techniques of Educational Evaluation
15. Procedures for Conducting Evaluations of Vocational Education

SEMINARS AND FIELD EXPERIENCE MODULE

(Seminars in Authority Roles and the Curriculum Specialist in Vocational Education, and Leadership Styles and Functions of the Curriculum Specialist in Vocational Education; field work in Project Design and Administration, Operation of School Programs, Evaluation of School Programs; Educational Research and Development, and State, Regional, and Federal Program Supervision)

INSTALLATION GUIDE

For sale by the Superintendent of Documents
U. S. Government Printing Office
Washington, D.C. 20402 Price $_ _ _
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PREFACE

Who is a vocational education curriculum specialist? The answer to this question is not as simple as it might appear. A vocational education curriculum specialist is likely to work in many different capacities, including, but not limited to: instructor, department chairperson, dean of vocational-technical education, vocational supervisor, principal, state or local director of vocational education, and curriculum coordinator.

The specialist is, perhaps, more identifiable by his/her responsibilities, which include, but are not limited to:

- planning, organizing, actualizing, and controlling the work of an educational team performed to determine and achieve objectives.
- planning, organizing, and evaluating content and learning processes into sequential activities that facilitate the achievement of objectives.
- diagnosing present and projected training needs of business, industry, educational institutions, and the learner.
- knowing, comparing, and analyzing different theories of curriculum development, management, and evaluation and adapting them for use in vocational-technical education.

This teaching/learning module is part of a set of materials representing a comprehensive curriculum development project dealing with the training of vocational education curriculum specialists. The purpose of this two-year project was 1) to design, develop, and evaluate an advanced-level training program, with necessary instructional materials based on identified vocational education curriculum specialist competencies, and 2) to create an installation guide to assist instructors and administrators in the implementation process.

The curriculum presented here is, above all else, designed for flexible installation. These materials are not meant to be used only in the manner of an ordinary textbook. The materials can be used effectively by both instructor and student in a variety of educational environments, including independent study, team teaching, seminars, and workshops, as well as in more conventional classroom settings.

Dr. James A. Dunn
Principal Investigator and
presently Director,
Developmental Systems Group
American Institutes for Research

ACKNOWLEDGEMENTS

The Vocational Education Curriculum Specialist Project was a comprehensive development and evaluation effort involving the contribution of a large number of people: project staff, curriculum consultants, a national advisory panel, and a number of cooperating colleges and universities. This wide variety of valuable inputs makes it difficult to accurately credit ideas, techniques, suggestions, and contributions to their originators.

The members of the National Advisory Panel, listed below, were most helpful in their advice, suggestions, and criticisms.

Myron Blee	*Florida State Department of Education*
James L. Blue	*RCU Director, Olympia, Washington*
Ralph C. Bohn	*San Jose State University*
Ken Edwards	*International Brotherhood of Electrical Workers*
Mary Ellis	*President, American Vocational Association*
George McCabe	*Program Director, Consortium of California State University and Colleges*
Curtis Henson	*Atlanta Independent School District, Georgia*
Ben Hirst	*Director, Consortium of the States, Atlanta, Georgia*
Joseph Julianelle	*U. S. Department of Labor*
Lee Knack	*Industrial Relations Director, Morrison-Knudsen, Inc.*
Bette LaChapelle	*Wayne State University*
Jerome Moss, Jr.	*University of Minnesota*
Frank Pratzner	*CVE, Ohio State University*
Rita Richey	*Wayne State University*
Bryl R. Shoemaker	*Ohio State Department of Education*
William Stevenson	*Oklahoma State Department of Education*

The project would not have been possible without the cooperation and commitment of the field test institutions listed below.

California State University, Long Beach
California Polytechnic State University, San Luis Obispo
Consortium of California State University and Colleges
- California State University, Sacramento
- California State University, San Diego
- California State University, San Francisco
- California State University, San Jose
- California State University, Los Angeles

Iowa State University
University of California Los Angeles
University of Northern Colorado

Overall responsibility for the direction and quality of the project rested with James A. Dunn, Principal Investigator. Project management, supervision, and coordination were under the direction of John E. Bowers, Project Director.

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Part I:

Organization and Administration

PART I
ORGANIZATION AND ADMINISTRATION

Guidelines

This study guide has five major sections. Each section contains useful information, suggestions, and/or activities that assist in the achievement of the competencies of a Vocational Education Curriculum Specialist. Each major section is briefly described below.

PART I: ORGANIZATION AND ADMINISTRATION

PART I contains an Overview and Rationale, Educational Goals and Performance Objectives, Recommended Learning Materials, and Suggested Reference Materials. This section will help the user answer the following questions:

- How is the module organized?
- What is the educational purpose of the module?
- What specifically should the user learn from this module?
- What are the specific competencies emphasized in this module?
- What learning materials are necessary?
- What related reference materials would be helpful?

PART II: CONTENT AND STUDY ACTIVITIES

Part II contains the content outline arranged by goals. The outline is a synthesis of information from many sources related to the major topics (goals and objectives) of the module. Study activities for each goal and its corresponding objectives follow each section of the content outline, allowing students to complete the exercises related to Goal 1 before going on to Goal 2.

PART III: GROUP AND CLASSROOM ACTIVITIES

The "Activities-Resources" column in the content outline contains references to classroom or group activities and discussion questions related to specific content in the outline. These activities and discussion questions

are located in PART III and are for optional use of either the instructor or the student. Both the classroom activities and discussion questions are accompanied by suggested responses for use as helpful examples only--they do not represent conclusive answers to the problems and issues addressed. Also contained in the "Activities-Resources" column are the reference numbers of the resources used to develop the content outline. These reference numbers correspond to the numbers of the Suggested Reference Materials in PART I.

PART IV: STUDENT SELF-CHECK

PART IV contains questions directly related to the goals and objectives of the module. The self-check may be used as a pre-test or as a post-test, or as a periodic self-check for students in determining their own progress throughout the module.

PART V: APPENDICES

Appendix A contains responses to the Study Activities from PART II, and Appendix B contains responses to the Student Self-Check. The responses provide immediate feedback to the user and allow the module to be used more effectively for individualized study. They have been included in the last part of the module as appendices to facilitate their removal should the user wish to use them at a later time rather than concurrently with the rest of the module.

Approximately 30 hours of out-of-class study will be necessary to complete this module.

Overview and Rationale

The term "management" in the context of vocational education refers to two types of management systems. The first type, administrative management, is the scheduling of materials, resources, instructors, students, and events. The second type, classroom management, is the process of keeping track of student learning in the classroom or in cooperative and on-site facilities.

The essential ingredients of both types of management are careful planning before implementation and continuous surveillance after implementation to ensure that the program or course is achieving the desired results.

This module has two goals. The first goal discusses the requirements, materials, and events that make up administrative management.

The second goal discusses a variety of classroom management plans. Since individualized instruction is particularly appropriate for vocational education, management plans for individualized instruction are stressed.

Goals and Objectives

Upon completion of this module, the student will be able to achieve the following goals and objectives:

GOAL 12.1: DEVELOP AN ADMINISTRATIVE MANAGEMENT PLAN FOR A NEW COURSE.

- Objective 12.11 Describe how to establish a schedule of classes and teachers.
- Objective 12.12 Describe how to plan and select instructional facilities.
- Objective 12.13 Describe how to purchase equipment.
- Objective 12.14 Describe how to maintain an inventory of instructional materials and equipment.
- Objective 12.15 Prepare a plan for selecting instructors.
- Objective 12.16 Prepare a plan for selecting students.
- Objective 12.17 Describe how to prepare a budget for a course.

GOAL 12.2: STUDY A VARIETY OF CLASSROOM MANAGEMENT SYSTEMS.

- Objective 12.21 Describe the major management characteristics of individualized instruction and group instruction.
- Objective 12.22 Describe the basic classroom activities necessary for effective classroom management.
- Objective 12.23 Describe the management responsibilities of the instructor and the student.

Recommended Materials

Frantz, Nevin R., Jr. Individualized Instructional Systems for Vocational and Technical Education: A Collection of Readings. Athens, Georgia: Vocational Instructional Systems, 1974.

Suggested References

1. American Vocational Journal, Vol. 50, No. 1 (January 1975). Various articles.

2. Banathy, Bela H. Instructional Systems. Belmont, California: Lear Siegler, Inc./Fearon Publishers, 1973.

3. Davis, Dwight, and Borgen, Joe. Planning, Implementing, and Evaluating Career Preparation Programs. Chicago, Illinois: McKnight Publishing Company, 1974.

4. Deterline, William A., and Branson, Robert. An Empirical Course Development Model. Palo Alto, California: Sound Education Inc., 1972.

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11. Schade, Joseph E. "Shop Management and Control." Industrial Arts and Vocational Education, XXVII (March 1938).

12. Silvius, Harold G., and Bohn, Ralph. Planning and Organizing Instruction. Bloomington, Illinois: McKnight Publishing Company, 1975.

13. Silvius, Harold G., and Curry, Estell H. Teaching Successfully in Industrial Education. Bloomington, Illinois: McKnight and McKnight, 1967.

Part II:

Content and Study Activities

PART II
CONTENT AND STUDY ACTIVITIES

Goal 12.1

Content Outline	Activities-Resources
Goal 12.1: Develop An Administrative Management Plan for a New Course.	
A. Administrative Management*	* See Discussion Question A in Part III.
1. This discussion provides guidelines for carrying out the planning and management functions essential to successful implementation of an instructional program. The emphasis is on assuring that the right people are at the right place at the right time, that they know what they are supposed to do, and that they have the materials, equipment, and facilities to do it.	
2. The procedure ensuring that a course will be well managed should include the following steps:	
a. Prepare an instructional guide and a student manual.	
b. Select instructors.	
c. Train instructors.	
d. Select students.	
e. Secure time allocation, space, materials, equipment, etc.	(3) Planning, Implementing, and Evaluating Career Preparation Programs.
The order in which these steps are completed may vary--but they must all be completed (3).	

B. Preparing the Instructional Guide and Student Manual

1. Preparing the Instructional Guide: One of the most critical items you have to develop or locate is an instructional guide that describes the course and gives directions for administering it. At the minimum, it should contain:
   a. a clear, complete description of the course;
   b. a description of the target population;
   c. directions for administering and scoring tests;
   d. directions for administering the course;
   e. details of how the course will be integrated within your particular school; and
   f. information such as scheduling, equipment location, personnel assignments, contingency plans, and other details peculiar to a specific situation (4).

(4) An Empirical Course Development Model. See also: (2) Instructional Systems.

2. Preparing the Student Manual: Most of what has been said about the instructional guide is also true of the student manual. Students must have a clear idea of what they are supposed to be doing if they are to make optimal use of the learning situation. In addition to objectives, practice exercises, and tests, the students must know how they are expected to meet the objectives and what they are to do once they do meet them.

When you are implementing a new course, it is particularly important to let the students

know the role they are playing. Since it is still being evaluated, a new course is in the development stage. You need the students' reactions to the course. If you keep them informed, they are more likely to respond positively.

At the minimum, a student manual should include the following:

a. objectives;
b. sample final test items;
c. practice tests or self-evaluation tests;
d. directions for using learning resources;
e. directions for the learning sequence and options available;
f. required scheduling events;
g. time schedules that must be met (4).*

(4) An Empirical Course Development Model.

C. Select and Train Instructors

1. You will want to select instructors who are experienced not only in the subject matter of the course, but also in the particular type of instruction required by the course.
2. The instructor is the vital part of any instructional system, and the effort you put into helping prepare him to undertake the functions expected of him will be effort well spent.

You are not expected, of course, to teach someone everything he needs to know to be an instructor. The assumption is that you have

* See Discussion Question B in Part III.

chosen instructors who are already competent in their field. What you will need to do is make sure that the instructor becomes thoroughly familiar with your particular course. He must be oriented to the philosophy and point of view of the employing institution. Make sure he has thoroughly reviewed the instructional guide, student manual, supplementary instructions, and all the learning materials and equipment with which he will be involved.

3. Make sure that the instructor is familiar with administering the tests. When performance tests are to be used, special instructor training in test administration may be required (5).*

(5) Instructional Systems Development Model.

* See Discussion Questions C and D in Part III.

D. Select Students

The instructional guide will have defined the population for which the course was designed. That is, the required entry behaviors of students will have been outlined and, probably, tests or other appraisal devices included to help you determine if the prospective students are underqualified or overqualified for the course. Although you may have no control over the actual assignment of students to the course, you can make known your opinion as to the appropriateness of student selection.

E. Establish Schedule

1. Some of the management details involved in implementing instruction might appear insignificant--that is, if you have never had this

responsibility. Some of these details will be discussed briefly here.

2. You must determine when instruction will begin and end. The overall course time will be indicated in the instructional guide. Often, however, this is just an estimate. You will want to arrange as much extra time as possible--but you will also need to plan what to do with students who finish early.
3. Time allocations per topic or block of instruction are usually listed in the instructional guide. These allocations determine when and for how long you will have to reserve certain equipment and facilities. However, again keep in mind that these times are generally estimates.
4. In self-paced programs, some individuals will finish before others. Self-pacing will, however, be meaningless if the faster learners then have nothing to do. Sometimes, they are permitted to go to their next duty, and sometimes they are utilized as peer tutors for slower learners. Whatever the decision, however, it should be planned in advance.
5. When the program (or parts of it) is not self-paced, it might be possible to permit fast learners to spend time away from the instructional setting; this would give slower learners an opportunity to catch up (3).

(3) Planning, Implementing, and Evaluating Career Preparation Programs.

F. Secure Adequate Facilities

1. The time to specify needed facilities for a course is after specific goals, instructional objectives and units, methods, and evaluation procedures have been planned. It is only then that minimum, essential facilities for an optimal educational experience can be identified (12).
2. The first factor to consider is the number of work stations that are needed for the course. The work station is defined as "the bench, machine, desk, study carrel, or place where one student may work or headquarter for a period of time while the student does research, plans and constructs a project, or carries out some experiment or unit of work" (12).
3. It is worthwhile to search the literature for recommended facilities and space requirements for your course.

   Before making any decisions, however, you should also talk with others who have offered similar programs and with those who are experts in the field. They can help you determine the necessary facilities for the course. When consulting with others regarding the facilities required, you might follow the steps listed below.

   a. Contact both program directors in other institutions and industry representatives and ask them to assist you in determining

(12) Planning and Organizing Instruction.

the facilities necessary for a given new course. They should be able to discuss the adequacy of their own facilities to offer some helpful suggestions for the establishment of the new course(s) or program(s). They should also be aware that you want the minimum requirements, not the ideal. You will have to provide these people with the following data:

(1) the expected number of students to be served--
  (a) total number, and
  (b) number per class session;
(2) the course and program to be offered;
(3) the instructional methodology that will be used--
  (a) classrooms,
  (b) laboratories,
  (c) audiovisual-tutorial carrels,
  (d) on-the-job work experiences, if any;
(4) the hardware (equipment) that will be used (3).

b. Together with the other experienced program directors, you should try to determine the following points:

(1) the space required for the equipment;
(2) the space required for the classroom instructional area;
(3) the total square footage required for the classrooms and laboratories;

(3) Planning, Implementing, and Evaluating Career Preparation Programs.

(4) the type of facilities and structure(s) needed for housing the hardware and the classrooms. In making this determination, the following factors should be considered:

(a) Is window space needed?

(b) Is ventilation needed--exhaust fans or hoods?

(c) Is air-conditioning or refrigeration needed?

(d) Is natural lighting needed?

(e) What type of artificial lighting is needed?

(f) What ceiling height is needed?

(g) What size doors are needed?

(h) What electricity is needed--110, 220, 440, 880, and single phase or three phase voltage?

(i) Is running water needed?

(j) Are special wash facilities needed for students (3)?

(3) Planning, Implementing, and Evaluating Career Preparation Programs.

4. As a general rule, the following guidelines should be followed if you are preparing new facilities.

a. Prepare for delays in construction.

b. Talk not only to teachers, but also to those who are on the job.

c. Don't rely on other vocational facilities--your needs may be different, and real-life requirements may have changed.

d. Avoid the "dual use" idea. These economy efforts often result in neglected vocational program objectives.

e. Choose an architect with prior experience in vocational facility planning.

f. Don't overlook strong public relations aspects when planning facilities.

g. Build facilities <u>after</u> you have developed educational specifications that have been researched and substantiated by facts (9).*

(9) "Making The Comprehensive High School Comprehensive."

* See Classroom Activity 7 in Part III.

G. <u>Purchase or Locate Adequate Equipment</u>

1. The next step is to purchase, or if possible locate already purchased, equipment for the career program.
2. Consider the number of hand tools, instruments (in health occupations), utensils, or other items of specialized equipment needed for each program. To determine the minimum amount of special equipment needed by students at any one time, the teacher and curriculum specialist need to anticipate the kinds of units, projects, experiments, or activities that will be done at the work stations. This is done by analyzing the manipulative tasks or operations involved in all possible activities to determine the equipment that will be used by any one person for each operation or task.
3. When curriculum builders have identified the equipment necessary for one student, they then need to consider:
   a. the number of work stations at which such a project, experiment, or activity is likely to be performed concurrently;

b. the degree to which tools, instruments, or other items are used in performing an operation or task; and

c. the amount of student cooperation expected in the use of any one piece of equipment (12).

(12) Planning and Organizing Instruction.

4. It is important for school systems to establish sharp definitions, for budget and accounting purposes, to distinguish items as either instructional supplies or instructional equipment.

a. One distinction often made is that instructional supplies (used interchangeably and synonymously with instructional materials) are those items that are used in some way to facilitate a unit of work, or used in the construction of a project; they are usually used once, or a few times, by the student. They are the expendable items.

b. Instructional equipment, on the other hand, includes the tools and machines that can be used again and again over a period of time. They are not expendable.

c. Examples of equipment and supplies include:

Equipment	Supplies
wheelchair (for transporting patients)	medicine droppers
cash register	paper
machine lathe	tool bit
refrigerator	flour

(12)

5. If you have developed a new course and equipment is not available, you will have to follow the procedures used in your district in order to acquire materials. Usually the procedure involves the following steps:
   a. Show instructional need for the equipment. Usually the instructional guide lists the required materials and equipment, and this is adequate proof of need.
   b. Draw up instructional specifics that list all required equipment. Give a copy of the instructional specifics to the purchasing department, who may then add requirements and criteria.
   c. Advertise for bids. There are different criteria in each district. For instance, one district allows you to get telephone bids for amounts under $200; other districts have higher or lower limits for telephone bids.
   d. Compare the instructional and purchase specifications to the bids, and after a specific period of time, select the lowest bid made. State laws govern which bids you may select. In some states, for example, you may select either of the two lowest bids.
   e. After the equipment and materials have arrived, verify that they do in fact meet the criteria and specifications of the bid. * *

* See Classroom Activity 2 in Part III.

* See Discussion Questions E and F in Part III.

6. Traveling laboratories are becoming more popular as they are being used to facilitate vocational education programs.
   a. In a 1973 survey, it was found that 16 states were using more than 50 different mobile units for various vocational programs. Other states reported that they planned to use mobile units in the future.
   b. Three types of trailers were found in use.
      (1) One is the commercially available "house" type unit outfitted by firms in the business of providing mobile classrooms.
      (2) Another is an old passenger or school bus with the equipment for the program built in by either the school or a commercial firm.
      (3) The third is a trailer constructed on a purchased chassis by a vocational school, who then installs the necessary equipment.
   c. The reasons for using mobile units vary widely. New Jersey, which operates 12 units, hopes to promote permanent programs by demonstrating what can be accomplished with a mobile unit. Some districts use them when low enrollments do not warrant a permanent facility. Others find it feasible to share the cost of the laboratory and the instructor's salary among

schools, like the district in Colorado that daily shuttles an electronics facility between two schools 18 miles apart. The units in New York City are used to enrich the elementary program with hands-on, or performance, occupation-oriented activities.

d. The advantages advocated for mobile units are:
   (1) They are initially less expensive than adding a building to a school.
   (2) The cost per student is lower when the program can be shared with one or more additional districts.
   (3) Expensive equipment is used to a greater degree since the mobile unit moves to another school when instruction is completed.

e. The disadvantages of mobile units are:
   (1) The facility depreciates rather rapidly.
   (2) The tractor or power unit involves high maintenance costs--gasoline, oil, tires, and repair.
   (3) Delicate instructional mechanisms and equipment may be damaged when transported over rough terrain.
   (4) The safety zones and work space around the machines are usually limited because of the narrow widths of the mobile units (12).

(12) Planning and Organizing Instruction.

H. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

Class Scheduling

At some point, you must schedule classes and teachers for the first term or year of a course or program. There are a variety of alternatives in scheduling, and usually you will be able to select the alternative that best meets the course requirements. You should, however, check with your supervisor to determine if there are established scheduling policies that must be followed.

Before you develop your own schedule, take some time to consider how the following types of instruction might be used--either as described or in a modified form--to improve the effectiveness of your program.

Team Teaching (3). Team teaching refers to several teachers (usually two to five) working together as a "team" with a common group of students. The team has joint responsibility for planning, developing, implementing, and evaluating an educational program for a specified number of students. Each teacher might have a special competency and area of interest; thus, the total team would include a number of specialists, each capable of leading the planning and perhaps teaching a major part of the instruction in his area.

Individualized Instruction (3). This team refers to a method of instruction in which each student works alone and at his own pace on assignments designed to meet his individual interests, needs, and abilities. The subject matter studied may be cooperatively determined by both the instructor and the learner. During classtime, the teacher

is available to answer the student's questions and provide needed assistance.

Differentiated Staffing (3). Differentiated staffing attempts to relate the roles and responsibilities of each teacher to what he is best qualified to do. Under a differentiated staffing plan, teachers are able to concentrate on those professional activities they do best, such as coordinating the teaching and learning experiences. Routine or nonteaching tasks are assigned to laboratory assistants, teacher aides, and maintenance and clerical staff or their aides.

The roles and responsibilities of teachers are highly structured under differentiated staffing. With this plan, some of the more experienced teachers function as "master" teachers or program leaders and assume a responsibility for program development work that is not expected of the beginning teacher. The "master" teachers also assist beginning teachers with any problems they might have.

Modular Scheduling (3). The modular schedule, or variable class schedule is a descriptive term used to indicate some type of student cycling over a varied period of time. Modular scheduling might refer to actual scheduling or to facilities, to students, to units of instruction, or to time. Modular scheduling encourages the efficient use of facilities, students, staff, and time. The following definitions may help to clarify these terms:

> Module of time refers to the amount of instructional time allotted for a given module. For instance, if a module is designed for 20 minutes of instructional time, a 6-hour day would encompass approximately 18 modules.
>
> Modular facilities in terms of classrooms means that class space can be adjusted to fit varied everyday needs. Inner classroom partitions are flexible so that they may be opened or closed as needed.

Modular scheduling involves cycling students over a varied period of time. The students of a class would not necessarily meet daily but would meet for several days per week for the number of time modules that equal the required time for that class. For instance, if a student must spend 300 minutes in Home Economics 101 each week, he may meet for five 20-minutes modules, three days per week. Modular scheduling also allows for block scheduling, which is essential for laboratory sessions and many career classes.

Modular unit of instruction refers to the breakdown of a course into smaller packages or units of instruction designed for individual students. As a student completes a module, he takes a test and if he passes, he begins the next module.

Modular scheduling, or the variable class schedule, should spell out what, how, time, and facilities. When assigning a function to a student, you should give him the appropriate modules of time to complete a unit or module of instruction. The selection of modular scheduling really dictates the mode of instruction to be followed by the faculty.

The following procedure will help you finalize the schedule for the first year of operation.

1. Identify local institutional policies and practices related to scheduling, work load of teachers, work load of students, forecasting number of sections, etc. This information may be available from the master teacher or institutional policy manuals.
2. Prepare a set of forms for developing a room schedule and for setting up instructor and department schedules for one year. Your institution may already have such forms and a procedure for their completion. Example forms for the instructor schedule and department schedule are provided. They are designed to be used together and to assist you with this step

of the procedure.

a. Use the instructor schedule for each instructor.

b. Use the department or program schedule for each course or program.

SAMPLE
Instructor Schedule (3)

Semester _____ Year _____

Department _____ Instructor _____

Time Blocks	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

SAMPLE
Department Schedule (3)

Semester _____ Year _____

Course Number	Course Title	Time	Days	Instructor	Room No.	Lec. Hrs.	Lab Hrs.	Credit Hours

1. Having read the preceding material on "Class Scheduling," select a topic or content area that is not being taught presently in your school. The topic, however, should be one that might conceivably be the subject of a course in your school curriculum. You will use it for most of Goal 12.1. After you have selected a topic, complete the following activities.

   a. Explain why the following types of teaching schedules could or could not be used for your particular topic.

      Team teaching
      Individualized instruction
      Modular scheduling

   b. Briefly describe the type of management system you would use to manage your course. Then, describe how you would plan a schedule of classes and teachers.

2a. The correct time to specify needed facilities is:

   _____a. before objectives are written.

   _____b. after objectives have been written.

   b. Define "work station."

   c. What factors determine the number of any one tool, instrument, or utensil needed for a course or program?

   d. Define: a. instructional supplies
      b. instructional equipment

   e. Is it desirable to use the terms instructional supplies and instructional equipment synonymously? Why or why not?

   f. Describe the advantages and disadvantages of mobile laboratories.

Purchasing Equipment

In order to purchase the equipment required by your course or program, you will have to write specifications, request bids, evaluate the submitted bids, and then, finally, purchase the equipment.

The equipment needed will depend on the instructional content and the methods you plan to use in the course, as well as on the estimated number of students who will enroll in the course. Once you have identified the needed equipment, you will have to develop specifications and submit them for bids.

Purchase specifications are precise descriptions of equipment supplies you intend to buy. They specify the quality and quantity required. Specifications should be broad enough to ensure that several manufacturers or suppliers will be able to bid on the equipment.

The development and design of the specifications vary with each institution and individual. There are, however, general procedures that most institutions follow. As you read about these procedures, keep in mind the two constraints that you must investigate before you request a bid. They are:

a. state guidelines and legal restrictions that are contained in a state-sponsored code for schools and public institutions, and
b. good business practices and local policies concerning purchasing and bidding.

Because there are state laws and local guidelines, consult with your school's business manager before drawing up specifications for bids.

The following general guidelines will assist you in the preparation of adequate specifications for the purchase of instructional supplies and equipment.

1. Assemble a course outline specifying the learning activities for the course.

2. Review the course, considering the instructional objectives and the methodology to be used. Prepare a list of needed equipment and supplies. (Use Form 1 on page 30 to summarize your equipment needs.) For assistance, consult with state advisors, advisory committees, vendors, and others who have taught the class.

3. Estimate the total cost of equipment and instructional supplies.

4. Rank instructional equipment and supplies according to priority. Since it is not usually possible to acquire all the instructional equipment and materials desired for a given course, this ranking will help you select the most critical items.

5. Identify the local institutional policies for purchasing, requesting bids, and receiving quotes.

6. Prepare purchase specifications for the equipment. You may refer to industry or government prepared standards or you may call in salesmen involved with the products to discuss specifications with them. Prepare a worksheet for recording the specification data. The following should be included on the worksheet.

   a. size
   b. shape
   c. weight
   d. color
   e. quantity
   f. quality
   g. conditions of delivery--when and where
   h. conditions of payment--when

A number of agencies and associations have actively sponsored the development of standards for specification form. These standard specifications serve as a basis for developing and/or validating your own specifications. The National Bureau of Standards, the Navy Department, the American Standards Association, the American Society for Testing Materials, the National Electric Manufacturing Association, the Underwriters Laboratories, the American Society of Mechanical Engineers, and similar bodies have developed a large body of technically sound specifications in their respective fields. These are available to you. Specifications of this nature are known to both buyer and seller and are useful for specification purposes because of their universality.

If you wish to purchase according to such specifications, the National Bureau of Standards (United States Department of Commerce) issues the National Directory of Commodity Specifications. The third revised and enlarged edition covers more than 35,000 specifications. In it are listed by title, designating number, and sponsoring organization the specifications and test methods for commodities regularly produced in the United States. Each specification is also briefly summarized as to technical characteristics, scope, and special applications.

The enumeration of standards and specifications in the directory covers those adopted by national, technical, and trade associations and federal agencies. Included also are references to the purchase specifications of several departments and establishments of the Federal Government. The subjects and titles are grouped in accordance with a decimal system of classification, and they are cross-referenced. Each directory has a comprehensive index and contains directions for obtaining copies of the documents themselves.

Another useful reference is the Bureau of Standards Circular No. 319, which lists the government specifications that may be secured from governmental sources. Price List 75, Federal Specifications, Federal

Standard Stock Catalog describes commodities which the government buys, and also describes how to obtain copies of these specifications and indicates their cost. For a more detailed study on the subject of specifications, see Report on Specifications, prepared by a special committee of purchasing agents of the Manufacturers Research Association, and the NAPA Handbook of Purchasing Policies and Procedure. Form 2 can be used for writing specifications. (3)

Form 1

Required Equipment

Course _____

Estimated enrollment per semester _____

Equipment Description	Quantity	Need to Purchase	On Hand	Estimated Cost	Recommended Supplies	Priority Rating
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						

Form 2

Request for Bids (3)

Item	Article and Description	Unit	State Brand and Cat. No. of Items Quoted On	Quantity (Approx.)	Unit Price	Total Price	Estimated Delivery Time

3. Having read the preceding material on "Purchasing Equipment," complete the following activities.

   a. List the state guidelines and restrictions that apply to purchasing supplies in your school district. For instance:

      a. What is the maximum amount you can spend on an item without requesting bids?
      b. How many bids must be requested before a purchase is made?
      c. Must you purchase equipment from the lowest bidder?
      d. Under what circumstances can telephone bids be used?

   b. List the steps that should be completed in order to purchase equipment.

Inventory Control

After instructional materials and supplies have been purchased, they should be numbered and recorded in an inventory record. All materials should be given a tag and number so that they are identified as belonging to the school, state government, or Federal Government.

A record or inventory should be kept up to date so you are always aware of materials on hand. Also, an inventory will help locate items and identify those that are missing or broken. Finally, the inventory, if updated annually, can provide a basis for building a schedule for equipment replacement.

You will also have to develop a checkout system for lending materials to students. When a student returns a borrowed item, that fact can be indicated, for example, by crossing his name off the list.

Your inventory form can be a list or a group of 5 X 5 cards. It should contain the information included on the sample form shown on the next page.

SAMPLE

INVENTORY

COURSE:_____

DATE:_____

Number of Item	Name of Item	Size or Description	Date Acquired	Quantity of Item	Purchase Price	Years to Depreciate	Location

4. Having read the preceding material on "Inventory Control," complete the following activities.

   a. List three advantages of maintaining an up-to-date inventory of all materials and equipment.

   b. What are two possible inventory systems?

Selecting Instructors (3)

At this point, you should have a very good idea as to the type of instructor needed for your program or course. As a general rule, you should be able to describe the characteristics of the ideal instructor by listing the following information:

1. relevant work experience;
2. number of years of work experience;
3. minimum education attained (degree or certification);
4. major area of study preferred;
5. teaching experience--number of years, grade level, and subject;
6. special licenses and certification required;
7. personality characteristics or attributes;
8. total staff time required of instructor--full-time or part-time.

You can use this information as a basis for recruiting new staff.

Your next step is to identify sources of potential instructors, and recruit, select, and hire the instructors. The following guidelines will be helpful:

1. Develop an information sheet advertisement to recruit instructional staff. The sheet should contain the following information:

   background information about the school;
   person to contact;
   position qualifications;
   conditions of employment; and
   specific information about the position.

2. Identify the places to which you will send the advertisements for new staff. Factors to consider are:

   What is the most likely location of the type of person you are recruiting? For example, which colleges or universities offer majors in subjects related to your vacancy?
   What types of positions are to be filled, for example, instructor, technician, aide, professional staff, program director, or department chairman?

To help you decide where to send the advertisements, you may want to consult the specialized advisory committee and the members of professional organizations representing the occupation for which you are trying to locate staff members. In addition, you should prepare a mailing list of schools and universities.

3. Send the materials to the persons identified in Step 2.
4. Apply good personnel practices by keeping applicants notified regarding the status of their applications. For example:
   Acknowledge the receipt of applications.
   Notify applicants when position(s) have been filled.
5. Compile a list of all interested instructors.
6. Ask those who meet your qualifications to submit a complete application, credentials, and other information required by your institution.
7. Proceed with the employment process according to your institution's policies and practices.
8. Invite the most qualified candidates to visit your institution. This can be done by telephone or letter. Be sure to state whether or not you will pay travel, motel, and meal expenses so that there is no misunderstanding.
9. Show the candidates the facilities. Explain the relevant course or program and outline what will be expected of them. Encourage them to ask questions. You might cover the following at this time:

background and philosophy of the school;
background and philosophy of vocational education;
future plans for school and vocational programs;
administrative structure of the school;
background for the development of the new course or program;
content of the new course or program;
expectations of the person who will be hired for the position.

10. The candidates should be interviewed after the orientation. The division, department, or program chairman and several of his staff should meet with one candidate at a time to do this. The appropriate administrator should also have the opportunity to interview the candidates. The following information might be sought from the candidate during the interview:

    philosophy toward vocational programs;
    attitude toward occupational area and instructional programs to train students for the area;
    repertoire of skills possessed by the candidate;
    an assessment of the candidate's strengths and weaknesses.

11. After the interviews are conducted, the administrator should meet with the staff to review the strengths and weaknesses of each candidate and to decide which are to be recommended for hiring. To assist you with this procedure, you should develop an interview sheet on which each member records the strengths and weaknesses of the candidate and then ranks them in order of preference.
12. Prepare a recommendation to employ the candidate that has been selected. You will need to follow established institutional policy in selecting and recommending personnel.
13. When final (Board) approval is given and the contract signed by the recommended candidate(s), letters should be sent to all the other people who applied for the position, thanking them for their interest in applying and informing them that the position is filled.

5. Having read the preceding material on "Selecting Instructors," answer the following questions as they relate to the course or programs you selected for Activity 1.

   a. List the qualifications an instructor should have in each of the following categories if he were to teach your course.

      a. Relevant work experience
      b. Number of years of work experience
      c. Minimum education attained
      d. Major area of study
      e. Teaching experience (number of years, grade level, and subject)
      f. Special licenses and certification
      g. Personality characteristics or attributes

   b. List the most important steps you would follow to advertise, recruit, and select an instructor.

Selecting Students (3)

One of the final administrative steps in planning for a new course is to recruit and enroll students. You will have to prepare materials to describe your course to potential students, interview students, and prepare a plan for allowing students to earn credit by examination. In doing this, the following guidelines will be helpful:

1. Develop a plan for the recruitment of students for the course or program. The following should be considered in the plan:
   a. Who will recruit?
   b. When will they recruit?
   c. How will they recruit? That is, what recruitment practices will be used?
   d. What audiovisual media will be used?
   e. What materials will be distributed to news media, potential students, school counselors, and staff?
      Note: Such materials might include brochures, news releases, newspaper advertisements, special feature stories, etc.
      Additional Note: You may choose to involve your specialized or general advisory committee in both planning and executing student recruitment activities.

2. Prepare audiovisual materials to be used in recruitment. Other materials might include program brochures, news releases, feature stories, news presentations, and videotape recordings.

   Note: If your institution or system has a public relations officer, it is recommended that he be consulted for assistance in preparing recruiting materials.

   Additional Note: It is recommended that you obtain sample recruitment materials and procedures that have been used by other schools.

3. Develop a listing or file of names and addresses of people and firms to receive your recruitment information. This list might include:
   a. potential students;
   b. school counselors;
   c. school vocational teachers;
   d. school vocational directors;
   e. news media directors;
   f. influential industry personnel;
   g. potential employers; and
   h. union representatives.

   Note: The listing or file card should contain:
   (1) name;
   (2) title;
   (3) address--street, city, ZIP code;
   (4) telephone number;
   (5) area of interest (for items A, C, D, F, G, and H above).

4. Organize or prepare specific materials for use in recruitment of particular groups. For example, the following may be prepared:
   a. introductory letter to counselors;
   b. a cover letter sent in packets of materials to individual businesses, industries, and students;
   c. the slides needed for presentation to particular groups.

5. Prepare a plan and time schedule for the visitation of each group identified in Step 1. Identify in the plan those who will recruit and the time during which the materials are to be distributed.

6. The names and addresses of all students who indicate an interest in the courses or programs should be obtained for future mailings or other follow-up activities.

7. Place telephone calls or send letters to arrange visits with those who are interested.
8. Develop follow-up materials that can be used to send to students who indicate an interest in a course or program. These materials may include an application for admission form.
9. Send follow-up materials to interested students, place follow-up telephone calls, or arrange a meeting on campus or in a central location to further explain the course or program.
10. Check applications received from those students indicating an interest.
11. You may follow up on students who did not send in an application.

6. Having read the preceding material on "Selecting Students," answer the following questions as they relate to the course or program you selected for Activity 1.

   a. List the qualifications a student should have in each of the following categories.

      a. Relevant work experience
      b. Number of years of work experience
      c. Minimum education attained
      d. Major area of study
      e. Special skills or attributes
      f. Prerequisite classes

   b. Describe how you would recruit and select students for your course.

Preparing a Budget

Before you can implement a new program, purchase necessary equipment and instructional materials, or hire staff, you must prepare a budget and have it approved. A budget should be realistic--neither too high nor too low. It serves the function of controlling course expenditures and can always be modified slightly after completion.

When preparing a budget, you will, of course, use budget procedures and forms that are used in your school district. Consult with your business manager or appropriate administrator regarding these forms and procedures before you begin.

The procedure discussed here is general, but it should help you prepare an annual budget for a specific course or program.

The form provided on the following page is a general budget summary form that includes the basic items of a budget. It is provided as a sample and should not be used if your school or institution has an alternate form.

When completing a budget, the following guidelines will be helpful:

1. For calculating and recording budget items, develop a form, use the one in this guide, or use the one provided by your institution.
2. Obtain worksheets to record details and calculate costs.
3. Calculate revenue. The most important item in calculating revenue is usually the number of students enrolled in a course. Since you do not know this enrollment figure, you can only guess. To help you estimate, however, consider the following:
    a. number of students in cluster programs that might be interested;
    b. number of students in prerequisite courses that can qualify;
    c. student interest demonstrated during the past year;
    d. whether or not the course is a prerequisite for other courses;
    e. estimated cost of the course to the students.

    It is also strongly recommended that you do a survey of student interest in the content of the course. Ask students to complete a simple questionnaire that asks them to commit themselves to enrolling in the course should it be offered. Conducting a survey is the most accurate way of estimating student interest and participation, and even if it is an informal survey, you should conduct one before you go any further.

BUDGET SUMMARY

COURSE _____ TERM _____ YEAR _____

Expected Revenue

1. Student tuition $_____
2. Student fees $_____
3. State apportionment $_____
4. State vocational reimbursement $_____
5. Other $_____

Total expected revenue $_____

Expected Expenditures

1. Salaries $_____
2. Travel $_____
3. Supplies $_____
4. Instructional equipment $_____
5. Construction and preparation of facilities $_____
6. Other $_____

Total expected expenditures $_____

Balance on hand $_____

Difference between expected revenue and expenditures $_____

Establish your best prediction for enrollment, and use this figure to calculate the revenue that will be earned by student tuition, fees, state apportionment, and state vocational reimbursement. If there is any tax support, calculate that figure also.

Calculate all other possible sources of revenue at this time, including the possibility of evening students.

4. Calculate expenditures. You will need to discuss costs for the new program or class with your business manager to determine local fees. The more carefully you have planned your program, the more accurate your estimate of expenditures will be. To calculate expenditures, consider the following items:

    a. salaries of staff, including full-time and part-time staff, secretarial assistance, janitorial service, etc;
    b. travel that will be provided for students or required and reimbursed to staff;
    c. supplies, including paper, pencils, resources, etc.;
    d. instructional equipment such as machines;
    e. learning resource center;
    f. construction, renovation, and rental of physical facilities;
    g. in-service training of staff.

5. When you have calculated the estimated revenue and expenditures, determine the total for each and calculate the estimated net gain or loss for the program.

7. Having read the preceding material on "Preparing a Budget," complete the following activities by referring to the course or program you selected for Activity 1.

    a. Obtain the budget forms used by your school or district. If they do not have a form, or if you are allowed to do so, develop your own. Be sure the summary form contains all the information listed in the sample form.

b. If possible, interview students to determine interest in the course; also interview teachers and administrators to determine student fees, state apportionment, and so on.

c. Calculate the expected revenue and the expected expenditures. Then determine the difference between them in order to get the net cost or gain.

d. Submit your budget plan to your instructor for review. Be ready to support your figures and to justify why the course should be given.

(See Appendix A for possible answers.)

Goal 12.2

Content Outline	Activities-Resources

Goal 12.2: Study a Variety of Classroom Management Systems.

A. Classroom Management Systems

1. Classroom management is the second aspect of management that vocational educators must consider. After the facilities are planned, the materials prepared, and the instructors selected, learning must occur. And for learning to occur, students must receive information and guidance; they must understand the instructional objectives and receive feedback; they need motivation and counseling. The instructor is ultimately responsible for seeing that these activities occur.

   The classroom management plan required by the instructor, however, depends on the type of instruction being used. For instance, traditional instruction, characterized primarily by instructor lectures, requires a different management system from the self-paced, self-instructional, or peer-tutoring instructional systems.

2. There are a variety of classroom management plans. These include:
   a. the instructor-managed,
   b. the peer-managed,
   c. the computer-managed,
   d. the student self-managed, and
   e. combination plans.

Although the instructor always has ultimate responsiblity, his responsibilities differ under each of these plans (5).

(5) Instructional Systems Development Model.

B. Instructor-Managed Instruction

1. Instructor-managed methods of instruction include lectures, conferences, demonstrations, and study assignments. The instructor's classroom management responsibilities are, of course, quite comprehensive. He must determine content and objectives, direct the activities, select references and study resources, evaluate student progress, provide student feedback in the form of correction and confirmation, and tell students when they can proceed to the next topic or learning activity. This type of instruction involves the least amount of student autonomy and self-management (5).
2. Instructor-managed instruction should be used whenever the learning activities might be dangerous to the students and when expensive equipment might be damaged or destroyed.
3. The disadvantages of this type of instruction are:
   a. students must proceed at the same pace;
   b. individual help cannot be given to those who require it;
   c. feedback, confirmation, or correction of learning cannot be given immediately. Students must wait for a group test,

usually at the end of a sequence of instruction, to find out if they have learned the material correctly.

C. Peer-Managed Instruction

1. The plan of using students to manage other students has been successfully implemented in various instructional settings. It is most often called peer tutoring because it usually involves a student tutoring one of his peers (another student).

   Peer management can be developed into a unique student management plan, or it can be incorporated into any individualized instructional plan, including one which uses contingency management. (Contingency management is a system in which student rewards depend upon acceptable student behavior. The rewards motivate students to behave as the instructor desires.) Since peer tutoring is a method of demonstrating one's own proficiency to someone else, it is a motivational as well as a tutoring system.

2. In peer tutoring, the student who reaches proficiency instructs other students in the skills or processes to be learned. In learning job performances, the student watches as an advanced student or an instructor performs the job. He then takes a proficiency test. After

passing the test, the student becomes an instructor of a third student. If the learning situation in a course is individualized by objectives, the student who masters an objective can tutor a student who is beginning this objective or who needs remediation on it.

3. Advantages of peer tutoring include:
   a. particular adaptability to medium and low ability students, in an individualized setting where the instruction is highly structured;
   b. freeing the instructor to help those students in need of special assistance; and
   c. being a great motivator. It provides an opportunity for the tutor to practice his skills.
4. Disadvantages of peer tutoring include:
   a. teaching the student incorrectly. Occassionally the tutor forgets the correct procedure (or perhaps never learned it correctly) and he teaches his student incorrectly. Because of this possibility, tutors must be "checked out" by the instructor before they are given a tutoring responsibility. And, of course, the instructor is then still responsible for supervising the activity.

      If expensive equipment that might be damaged is being used, or if students

might be harmed by the activity, peer tutoring should not be used.

b. students wasting time. The second disadvantage of peer tutoring is that students are spending time in an activity that does not benefit them or increase their learning of vocational skills. Peer tutoring should not be used so often that students are learning less even though they are helping other students.

D. Computer-Managed Instruction

1. A type of management system that may be used more in the future is computer-managed instruction. If the facilities and computers are available, it is worthwhile experimenting with them.
2. In computer-managed instruction, the computer takes over many of the administrative functions: grading, record keeping, reporting, etc. More advanced forms of computer-managed instruction also monitor student performance, make remediation assignments, construct individual tests, etc. (5).
3. In the computer-managed setting, the instructor is still an important figure but he is a resource rather than a manager. One of the requirements in setting up a computer-managed instructional system is retraining instructors in techniques that will improve instruction for the students.

(5) Instructional Systems Development Model.

4. The main advantages of computer-managed instruction are:
   a. The instructor is free to present material, challenge students, and teach in the true sense of the word. He does not have to manage reports and records.
   b. Instructors and students have up-to-date records of their progress.
5. The main disadvantage of computer-managed instruction is the cost of the equipment. Schools can seldom justify the expense of computer-managed instruction in this day of "tight" budgets.

E. Student Self-Managed Instruction

1. In this management form, a student is provided with objectives; the student must then personally identify everything required to reach those objectives, plan his own learning strategy, and manage himself through the entire process. The most common example of student self-managed instruction is called performance contracting.
2. The advantages of this system:
   a. Students can proceed at their own pace. Fast students do not have to wait for slower students to catch up.
   b. The instructor is free to help students in need of assistance.

c. Students feel rewarded. They can choose the activities they enjoy most--as long as they meet the objectives.

3. The disadvantages of this system:

a. The main disadvantage is that someone, usually the instructor, must prepare student materials in advance. This can be a very time-consuming task.

b. A second disadvantage is that, for the most part, slower, unmotivated students who need pushing can abuse the system by not studying and, as a result, not achieve the objectives. Generally, a student self-managed system should be reserved for highly motivated students (5).

(5) Instructional Systems Development Model.

F. Combination Plans

1. Finally, there is a combination plan that uses all of these methods at different times during a course. This is the most frequently recommended plan and probably the one most teachers rely on.

2. The advantages include the following:

a. Different learning activities are usually suited to different management plans. The appropriate one can be selected as necessary.

b. The teacher and the students can adjust their activities as their relationships, motivation, and interests change.

G. Classroom Management Activities

All the classroom management systems discussed can be effective if certain activities occur. The necessary management activities include the following:

1. Establishing an order of business for each session. Students should have an orderly procedure to follow that includes:
   a. collecting materials;
   b. locating assignments, checking out tools;
   c. taking roll;
   d. cleaning equipment; and
   e. maintaining order (13).

(13) Teaching Successfully in Industrial Education, pp. 214-219.

Students should do many of these routine tasks by themselves, so that the instructor is free to serve as instructor, director, and supervisor of the entire program. According to Joseph Schad, "A well-managed shop is one in which the student takes a dynamic part in the administration of the routine work and thus permits the instructor to spend his time teaching, guiding, and directing the work of the class" (11).

(11) Shop Management and Control, p. 121.

2. Giving instructions on obtaining necessary supplies. If students must purchase materials and supplies, the instructor must give specific instructions on how and when they are to bring the money to pay for them.

a. Many instructors first collect money for the supplies (ideally 50%) and then purchase them in bulk for less cost.
b. A note should be sent to parents informing them of the cost of projects so that they have an opportunity to veto expensive ones.

3. Assigning students a number. Many vocational classes assign numbers to students and their lockers, work stations, and seats in order to organize and control facilities as well as students. Be sure to assign these numbers after the class enrollment is established (10).

(10) Instructors and Their Jobs.

4. Setting up a locker system. Many vocational courses require lockers for storing supplies, books, personal attire, materials, and so on.
5. Arranging students for learning activities. The classroom procedure should include arrangements for different classroom activities. Students should know how to arrange the room for lecture/demonstrations, individual study, and active practice or work. Once they know which activity is to occur, they should be able to arrange the room quickly without the instructor's direction.
6. Establishing an efficient system for taking roll. Usually calling names and waiting for responses is a time-consuming method. A better plan might be to take roll after students have started working or allow students to check off their names on a name chart (13).

(13) Teaching Successfully in Industrial Education.

7. Establishing a system for controlling discipline and tardiness problems. The system an instructor uses to control discipline depends on many factors including the age of the students, the particular problems, the policy of the school, and so on. *

* See Discussion Questions G, H, and I in Part III.

8. Assigning students to classroom management activities. The importance of this cannot be overemphasized. Students can free the instructor and, at the same time, learn important attitudes regarding the care of equipment and materials. Students are often assigned the following duties:
   a. tool monitor,
   b. floor sweeper,
   c. tool cleaner,
   d. roll taker,
   e. foreman of shop,
   f. safety monitor, and
   g. librarian.

* See Classroom Activity 3 in Part III.

If students are assigned such duties, they should be rotated so that each student will have an opportunity to learn each activity.* *

* See Discussion Questions J and K in Part III.

H. Study Activities

Based on your reading of the content outline and any additional references as suggested, complete the following activities.

1. Read the recommended text, Individualized Instructional Systems for Vocational and Technical Education: A Collection of Readings, by Nevin Frantz. Then complete the following activity.

   Review the list of management responsibilities below. Place an I (Instructor) next to each activity that is primarily the responsibility of the instructor and place an S (Student) next to each activity that is primarily the responsibility of the student in traditional group instruction. With this type of instruction, classroom management is primarily the responsibility of the instructor.

   I = Instructor responsibility
   S = Student responsibility

   _____a. Diagnose learning needs.
   _____b. Select learning activities.
   _____c. Select learning references.
   _____d. Establish time for instructor assistance.
   _____e. Establish time for evaluation exercises.
   _____f. Establish time for final examination.
   _____g. Select subject to study.
   _____h. Decide when to go to next content area.
   _____i. Maintain record of progress.
   _____j. Decide when remedial work is required.
   _____k. Determine sequence of study.

2. Place an I next to each activity that is primarily the responsibility of the instructor and an S next to each activity that is primarily the responsibility of the student in an individualized, self-paced program. The more individualized a course is, the more management activities are transferred from the instructor to the student.

I = Instructor
S = Student

_____a. Diagnose learning needs.
_____b. Select learning activities.
_____c. Select learning references.
_____d. Establish time for instructor assistance.
_____e. Establish time for evaluation exercises.
_____f. Establish time for final examination.
_____g. Select subject to study.
_____h. Decide when to go to next content area.
_____i. Maintain record of progress.
_____j. Decide when remedial work is required.
_____k. Determine sequence of study.

3. Several basic activities are necessary if a classroom is to be effectively managed. Briefly describe how you would manage each of the following classroom management activities.

   a. Obtaining necessary supplies
   b. Storing personal materials and belongings between and during classes
   c. Taking rol.
   d. Controlling tardiness
   e. Assigning students to classroom management activities such as cleaning up, caring for tools, and monitoring safety

4. Select one article from each of the four parts of the recommended text, Individualized Instructional Systems for Vocational and Technical Education: A Collection of Readings, by Nevin Frantz. Try to select articles that describe different management systems and academic content areas.

   Using the "Evaluating Management Systems" form provided on the following pages, evaluate each of the management systems described in the four articles. Be prepared to discuss these articles in class.

(Note: Only one copy of the evaluation form is provided in this guide. You will need to make three additional copies of the form or write your responses on separate sheets of paper.)

EVALUATING MANAGEMENT SYSTEMS

1. Author and title of article:

2. Academic subject of this program:

3. Describe the major characteristics and innovations of this program.

4. Describe the management system of the program. Specify the activities for which an instructor would be responsible.

5. Match the management activities listed on the left with the appropriate person on the right so that the activities are assigned as they are described in this article.

____a.	Diagnose learning needs.	I = Instructor
____b.	Select learning activities.	
____c.	Select learning references.	IS = Individual Student
____d.	Establish time for instructor assistance.	
____e.	Establish time for evaluation exercises.	G = Group of Students
____f.	Establish time for final examination	
____g.	Select subject to study.	
____h.	Decide when to go to next content area.	
____i.	Maintain record of progress.	
____j.	Decide when remedial work is required.	
____k.	Determine sequence of study.	
____l.	Correct evaluation exercises.	

6. Describe the problems that might arise if this management system were used in your school or in your area of academic interest and speciality.

7. Explain what you like and don't like aobut this program's design and management system. Describe how you would change any characteristics that you do not like.

8. List all the academic areas or programs that you think could use this type of program or management system.

9. List all the academic areas or programs that could <u>not</u> use this type of program or management system. Explain your reasons.

10. How effective do you think the program is in:

    a. developing student responsibility for learning?

    b. developing student autonomy?

    c. increasing student learning?

    d. increasing student interest in the subject being taught?

Wrapup Activity

NOTE: To meet the basic requirements of this module, select one of the following activities and complete it as directed. If you wish to earn additional credit beyond the basic requirements, you may choose a second activity to complete. Consult with your instructor first if you wish additional credit.

1. The purpose of this activity is to give you additional experience in the preparation and management of facilities. Select a vocational course that you might develop or that is currently being taught. Analyze the instructional and facility requirements of this course by completing the following tasks.
   a. Develop a report showing needed work stations and service machines or equipment for a maximum size class (with number of students to be accommodated reported).
   b. Make an analysis of needed hand tools, instruments, utensils, portable power equipment, and machines.
   c. List kinds and amounts of needed instructional supplies.
   d. In bibliographical form, indicate needed numbers of each text and reference book for the course and grade level.
   e. List, with their sources, filmstrips, 16mm movies, and other visuals and recordings to be used for teaching specified units.
   f. Use Ulrich's Periodical Directory and/or the Standard Periodical Directory to identify magazines that would be useful to students studying the course.
   g. Sketch a floor plan, showing the placement of equipment for optimum learning conditions.
   h. Write purchasing specifications for the power machines and heavy equipment needed for the specific course of study.

2. The purpose of this activity is to observe an individualized class or program, and a group-paced class or program, and to evaluate the effectiveness of the management system. At the end of the activity, you will be able to describe how effective the programs are in:

   a. developing student responsibility for learning;
   b. developing student autonomy;
   c. increasing student learning;
   d. increasing student interest in the subject being taught.

   This activity consists of three parts: Part 1 is to develop your interview and observation forms and questionnaires. Part 2 is to observe the class or program, interview students, and discuss the management concepts with the instructors. Part 3 is to analyze what you have learned, and write a summary of your observations and evaluation of the class or program.

   PART 1

   Select a local class or program in vocational education that is recommended by your instructor as having particular merit. Get permission to observe the class and to interview students and teachers.

   Develop interview and observation forms by referring to the sample forms on the following pages. You may use these forms as they are; however, if you have additional questions to ask, you should add them.

   After you have developed your interview forms, consult with your instructor so that he can help you make arrangements for the interviews. He may also be able to offer additional suggestions for your observation forms.

PART 2

Spend at least one morning or afternoon, or two sessions observing the class. If there are distinctive ability levels of students, be sure to observe all of the levels.

After observing the class, interview students you think are representative of the class. Try to interview a slow learner, a fast learner, and an average student to get an accurate view of how the management system allows for differences of ability.

Next, interview the instructor at his convenience. Ask questions that will allow the instructor to explain why the course is organized as it is. Bring up any questions you may have from your observations, and try to avoid making assumptions that may be unfounded. Encourage the teacher to be open and honest about the difficulties and constraints he faces by being nonjudgmental.

PART 3

Summarize your interview and observation notes in the form of a report. You may simply answer the questions asked in the form used for Activity 4, entitled "EVALUATING MANAGEMENT SYSTEMS." Be prepared to present your report to the instructor and to the class.

SAMPLE INSTRUCTOR INTERVIEW FORM

Instructor's name:

Class or program title:

Interview Questions

1. Are there learning goals, objectives, and criterion tests for this course?

2. Do students have any choice in the selection of the content to study?

3. Do students have a choice of learning activities?

4. Do students have a selection of learning references from which to select content?

5. How do students know when they have achieved the learning goal or objective?

6. What do students do if they learn the objective earlier or later than other students?

7. Do students have an opportunity to pace their learning for each goal or objective?

8. What sort of record-keeping system do you have for recording student progress in this course?

9. What arrangements are made for review or remedial instruction?

10. What sort of system do you use to maintain the equipment and facilities?

11. Are you trying to increase students' responsiblities in:

    a. topic selection,

    b. organization,

    c. planning, and

    d. evaluation?

12. How do you grade student performance? Do you use one standard or do you make allowances for student differences?

SAMPLE STUDENT INTERVIEW FORM

Class or program title:

Student's name:

Interview Questions

1. What do you think of the way this course is taught and organized?
2. What would you change?
3. Do you have any choice in deciding which topics you will study?
4. Do you have any choice in deciding how you will learn the topic?
5. How do you know when you have met the requirements of the learning goal or objective and are ready to go on to a new subject?
6. What do you do if you learn a topic faster than the rest of the class?
7. What do you do if you need more time to learn a topic?
8. Do you feel that you get enough guidance from the instructor?
9. Are there times when you would like more help in selecting learning activities or materials?
10. Do you always know how you are doing in the class--when you need more study and when you have learned the topic sufficiently?
11. If you could, how would you change this course?

SAMPLE OBSERVATION GUIDELINES

Class or program title:

Observation Guidelines

1. Do students seem to be learning?

2. Are students actively learning, practicing, etc.?

3. Do students get assistance in selecting activities and materials when necessary?

4. Are students progressing at their own rate?

5. Are students receiving confirmation and correction when needed?

6. Are students enjoying the learning experiences?

7. How do students get assistance in selecting learning activities and materials?

8. How do students get evaluated on their progress? Are they receiving enough feedback?

9. Which management functions are the responsiblity of the students?

10. Which management functions are the responsibility of the instructor?

Part III:

Group and Classroom Activities

PART III

GROUP AND CLASSROOM ACTIVITIES

Classroom Activities

NOTE: The following activities are designed for use in the classroom to stimulate discussion on specific topics covered in this module. The activities are designed to be used following student self-study; however, depending on the background and abilities of students, these activities may not require previous study. All classroom activities are keyed to the content outline to indicate an appropriate point at which they might be presented.

1. Describe interesting and innovative or unusual facilities that you have helped plan or have used.

   NOTE: If you are not aware of unusual or interesting facilities, read the articles from the American Vocational Journal, Vol. 50, No. 1 (January 1975).

   Briefly describe a shop, home economics, medical care, or other vocational course that requires special facilities. The class should divide into groups of about five students. Each group should describe how they would design such facilities--the type of equipment they would use, how it would be arranged, and what special, individualized features would be included.

3. The class should divide into four groups. The following classroom management systems should be assigned to each group:
   a. instructor-managed,
   b. peer-managed,
   c. computer-managed, and
   d. student self-managed.

Step 1. Each group should develop a list of instructor responsibilities and a list of student responsibilities for their particular management system.

Step 2. After the groups have discussed the problem for about 30 minutes, each should select a spokesman to present its list of student and instructor responsibilities to the rest of the class.

The following activities should be mentioned as being either student or instructor responsibilities:

a. diagnosing learning needs;
b. selecting learning activities;
c. selecting and caring for resource materials;
d. establishing specific times for instructor assistance;
e. establishing time for evaluation exercises;
f. establishing time for final tests;
g. selecting learning content;
h. maintaining record of student progress;
i. deciding when remedial work is required;
j. correcting student learning;
k. providing assistance in learning.

Discussion Questions

A. What does "managing" an educational program mean?

(The following two points should be mentioned.
1. There are two areas of management:
   a. administrative management, which includes arranging schedules, materials, equipment, instructors, students, budgets, etc., and
   b. classroom management, which involves providing timely assistance, self-evaluation tests, feedback, and so on.
2. Both types of management are crucial to the success of vocational education programs. Also, both require planning and the preparation of materials before a course or program is ready to be implemented.)

B. What other items of information would you include in a student manual?

(Such information as learning aids, memory devices, suggestions for additional study, optional questions or activities might be mentioned. Note that the more individualized a course is, the more necessary are directions in order to avoid utter chaos.)

C. What problems have you had or seen as a result of instructors not being trained for a particular course?

(Any of the following might be mentioned as the consequences of unprepared instructors:
   a. instructor teaches irrelevant content;
   b. instructor does not adequately test student objectives.)

D. Are there any other areas of instructor training that have not been mentioned?

(Administrative details like grading, time sheets, checking out equipment, and so on might be mentioned.)

E. Discuss the following problem: "Should I plan a program that is limited to the equipment and instructional supplies now available to me?"

(No. An inventive instructor can usually simulate different conditions or facilities to provide additional learning experiences. Or, with a few supplies, an instructor can demonstrate projects and activities.)

F. Discuss the following problem: "How do I cope with an instructional program for which it is only possible to get the needed equipment a little at a time?"

(Sequence instructions and activities so that students learn to use present equipment in depth before moving on to new equipment. If supplies are short, consider having students pay for supplies. You may also try to locate business/community members who can donate supplies and equipment.)

G. Do you think some punitive measures actually encourage discipline problems? Explain.

(Punitive measures that are either too light or too harsh tend to encourage more discipline problems. In the first case, students do not see light punishment as a deterrent. In the second case, students who receive harsh punishment often harbor negative feelings and want to do something bad for revenge.)

H. Describe various methods for arranging students for demonstrations.

(You might arrange students by size, in small groups, or in a circle around the demonstrator.)

I. How do you avoid student cheating?

(Make test scores less significant [except on final exam] or monitor area carefully. You might try a peer-monitoring system also.)

J. What system have you used for assigning duties (clean-up, etc.)?

(You might assign duties by alphabetical order, by the order in which activities are completed, or by student preference.)

K. What task should <u>not</u> be assigned to students? Explain.

(Tasks that are dangerous to students or to equipment should not be assigned to students. Concern for safety should be a top priority.)

Part IV:

Student Self-Check

PART IV

STUDENT SELF-CHECK

GOAL 12.1

1. Select a specific topic that could be the subject of a vocational education course. Using that topic, complete the following activities:
   a. Describe how you would establish a schedule of classes and teachers for both an individualized class and an instructor-managed class. (12.11)
   b. Describe how you would plan or select the instructional facilities. (12.12)
   c. List the equipment you would have to purchase and describe the steps you would follow to purchase it. (12.13)
   d. Describe the inventory system you would use to maintain a record of equipment and supplies. (12.14)
   e. How would you select instructors? Answer this through the following questions: (12.15)
      (1) What should your instructor requirements be?
      (2) Where would you look for instructors?
      (3) How would you advertise the position?
   f. How would you select and recruit students? Answer this through the following questions: (12.16)
      (1) What would your student requirements be?
      (2) Where would you look for students?
      (3) How would you advertise the position?

2. What are the basic steps in preparing a course budget? Answer this through the following questions: (12.17)
   a. What are the major sources of revenue?
   b. What are the major sources of course expenditures?
   c. How do you determine the net cost of a course?

GOAL 12.2

3. Describe the major management characteristics of individualized instruction. (12.21)

4. Describe the major management characteristics of group instruction. (12.21)

5. Describe how you would recommend that the following classroom management activities be handled in vocational education courses. (12.22)
   a. Obtaining necessary supplies
   b. Storing personal materials and belongings between and during classes
   c. Taking roll
   d. Controlling tardiness
   e. Assigning students to classroom management activities such as cleaning up, caring for tools, and monitoring safety

6. Briefly describe the management system for a course you have taught, observed, or read about. Include a description of how the following activities are carried out: (12.23)
   a. diagnosing learning needs
   b. selecting learning activities
   c. selecting learning references
   d. establishing time (the instructor) for assisting students
   e. deciding upon evaluation exercises
   f. maintaining a record of progress

   In addition, explain:
   g. Who decides which topics are to be taught?
   h. Who decides when remedial work is required?

Part V:

Appendices

PART V

APPENDICES

Appendix A:

Possible Study Activity Responses

GOAL 12.1

1a. (The specific response to this activity depends on the particular topic you selected. However, you might have mentioned the following points.

Team teaching requires specialists who teach their field of greatest experience and expertise. If no specialists are available, team teaching is not a particularly useful management system.
Individualized instruction is not a reasonable system if the learning tasks might endanger students or equipment. Individualized instruction also requires prepared materials for the students.
Modular scheduling requires a number of individuals who perform different functions. It requires close supervision by the master teacher to ensure that all functions are being carried out. It also requires flexibility in planning for the use of facilities and instructors. Unless most of the vocational education courses are designed in the modular system, students, instructors, and equipment will probably not be conveniently scheduled using this system.)

b. (The specific response to this activity depends on the particular topic you selected. You should have discussed one type of management system such as individualized instruction, modular planning, or team teaching. And you should have described how the scheduling of classes and teachers depends upon the type of management system to be used in the classroom.)

2a. b

b. "Work station" is defined as the bench, machine, desk, study carrel, or place where one student may work or headquarter for a period of time while the student does research, plans and constructs a project, or carries out some experiment or unit of work.

c. The factors that determine the number of tools needed for a course are:

   a. the number of work stations;
   b. the degree to which certain tools, instruments, and other items are used during an operation;
   c. the amount of expected student cooperation in the use of any one tool.

d. Instructional supplies are expendable items. Instructional equipment includes tools and machines that can be used again and again; they are not expendable.

e. No. The distinction between instructional supplies and instructional equipment is needed for budgeting and accounting purposes.

f. The advantages of mobile laboratories are:

   a. They are initially less expensive than adding a laboratory to a school.
   b. The cost per student is lower when the program can be shared with one or more districts.
   c. Expensive equipment is used to a greater degree since the mobile unit moves on to another school when instruction is completed.

   The disadvantages of mobile units are:

   a. They depreciate quite rapidly.
   b. The tractor or power unit involves high maintenance costs.
   c. Delicate instructional mechanisms and equipment may be damaged when transported over rough terrain.
   d. The safety zones and work space around machines are usually limited because of the narrow widths of the mobile units.

3a. (State guidelines vary from state to state, so the specific response to this activity depends on the state in which your school district is located. If you have questions, discuss them with your instructor.)

b. The steps that should be completed in order to purchase equipment include:

   a. assembling course outline;
   b. reviewing course and preparing list of necessary equipment and materials (including instructional specifications);
   c. calculating total costs;
   d. ranking requests according to priority;
   e. identifying institutional policies for requesting bids; and
   f. preparing purchase specifications.

4a. Three advantages of maintaining an up-to-date inventory are:

a. it provides an accurate record of inventory;
b. it identifies items that are missing or broken; and
c. it can provide a basis for building an amortized schedule for equipment replacement.

b. There are two basic inventory systems. The first makes use of a form consisting of a list of equipment and supplies organized by programs or subject areas. The second uses a group of 5-x-5 cards that individually lists equipment and supplies.

5a. (The criteria you establish as required for your course instructor depend entirely upon the subject to be taught and the level--high school, junior college, etc.--of the course.)

b. To advertise for, recruit, and select an instructor, you should have mentioned the following steps:

a. Develop an information sheet about the job and instructor requirements.
b. Identify the location of the type of person you are recruiting.
c. Send materials to prospective instructors.
d. Compile a list of interested instructors.
e. Interview those who seem most qualified.
f. Have other staff members interview the best candidates.
g. Together with other staff members, select the candidate.

6a. (The specific response to this activity depends on the particular course you selected.)

b. The steps to follow when recruiting students include:

a. Develop a recruitment plan.
b. Prepare audiovisual materials to be used in recruitment.
c. Develop a list of names and firms to receive recruitment information.
d. Prepare specific materials for specific groups.
e. Prepare time schedule for visits.
f. Interview students.
g. Develop and send follow-up materials.

7a. - d. (The specific response to this activity depends on the particular course or program you selected. If you have any questions regarding the budget forms you developed, discuss them with your instructor.)

GOAL 12.2

1. In traditional group instruction, classroom management responsibilities are usually assigned as follows:

I a. Diagnose learning needs.
I b. Select learning activities.
I c. Select learning references.
I d. Establish time for instructor assistance.
I e. Establish time for evaluation exercises.
I f. Establish time for final examination.
I g. Select subject to study.
I h. Decide when to go to next content area.
I i. Maintain record of progress.
I j. Decide when remedial work is required.
I k. Determine sequence of study.

2. With individualized instruction, classroom management responsibilities are usually assigned as follows:

I a. Diagnose learning needs.
S b. Select learning activities.
S c. Select learning references.
S d. Establish time for instructor assistance.
I e. Establish time for evaluation exercises.
I f. Establish time for final examination.
I g. Select subject to study.
S h. Decide when to go to next content area.
I i. Maintain record of progress.
S j. Decide when remedial work is required.
I k. Determine sequence of study.

3. There are no right or wrong answers for this exercise because classroom management styles differ. However, you should have mentioned the following activities:

a. A system should be implemented that allows students to know exactly where supplies are kept. Students should be allowed to obtain these supplies as they need them, perhaps through the direction of a rotating student monitor. Also, students should be required to be responsible for returning, cleaning, and if possible, repairing broken equipment.
b. Lockers should be assigned by number to students or classes.
c. Ideally roll should be taken during class by the instructor. Or students might check off their names on an attendance sheet. The method, however, should avoid time-consuming, verbal roll calls.
d. In most cases, if a rule is made and enforced, tardiness can be controlled.
e. Classroom duties should be rotated among students.

4. (The specific response to this activity depends on the particular articles you selected.)

Appendix B:

Possible Self-Check Responses

GOAL 12.1

1. Select a specific topic that could be the subject of a vocational education course. Using that topic, complete the following activities:

   a. Describe how you would establish a schedule of classes and teachers for both an individualized class and an instructor-managed class. (12.11)

      (Students should mention that an individualized class requires flexible planning so students can proceed at their own pace. Labs or individualized learning carrels with self-instructional materials make individualized courses easier to plan. Instructor-managed classes can be scheduled for a standard amount of time.)

   b. Describe how you would plan or select the instructional facilities. (12.12)

      (The specific response to this problem depends on the particular topic the student selected. Students should mention that facilities should be selected after objectives have been written. Work stations, necessary tools and equipment, safety requirements, space requirements, and costs should also enter into their decisions regarding facilities.)

   c. List the equipment you would have to purchase and describe the steps you would follow to purchase it. (12.13)

      (The specific response to this problem depends on the particular topic the student selected. Students should mention the following steps for purchasing equipment: assemble course outline and course requirements; rank instructional equipment and supplies according to priority; prepare purchase specifications; submit request for bids by phone or letter; evaluate bids; select appropriate bid.)

d. Describe the inventory system you would use to maintain a record of equipment and supplies. (12.14)

(Students should describe a system that uses index cards for each piece of equipment or a list that itemizes each piece of equipment and all supplies.)

e. How would you select instructors? Answer this through the following questions: (12.15)

(The specific responses depend on the particular topic selected.)

(1) What should your instructor requirements be?

(2) Where would you look for instructors?

(3) How would you advertise the position?

f. How would you select and recruit students? Answer this through the following questions: (12.16)

(The specific responses depend on the particular topic selected.)

(1) What would your student requirements be?

(2) Where would you look for students?

2. What are the basic steps in preparing a course budget? Answer this through the following questions: (12.17)

a. What are the major sources of course revenue?

(Student tuition, student fees, state apportionment, state vocational reimbursement.)

b. What are the major sources of course expenditures?

(Salaries, travel supplies, instructional supplies and equipment, construction and preparation of facilities.)

c. How do you determine the net cost of a course?

(Subtract expenditures from revenue. The difference between the two is the net cost for a course.)

GOAL 12.2

3. Describe the major management characteristics of individualized instruction. (12.21)

(Students control or direct as much of the classroom management process as possible in individualized instruction. Students select content to study, proceed at their own pace, are free to review instruction at any time, can request and receive instructor assistance as necessary, can be tested and proceed to a new subject as they are ready. Instructors are responsible for assisting the learning process, providing references and aids, acting as resources and evaluating individual learning of the students.)

4. Describe the major management characteristics of group instruction. (12.21)

(The instructor is the primary manager of activities in group instruction. The instructor selects content, determines the sequence of instruction and the pace of instruction keeping in mind the abilities and interest of the students. Students can ask for assistance as needed, but no system is established for individual assistance.)

5. Describe how you would recommend that the following classroom management activities be handled in vocational education courses. (12.22)

(Although the specific responses to these questions depend on the particular management styles of the student, some sample answers have been given.)

a. Obtaining necessary supplies

(Specific instructions should be given at the beginning of each class for obtaining instructions. If possible, a monitor should be given the responsibility for this duty.)

b. Storing personal materials and belongings between and during classes

(Lockers should be assigned during the early part of the course so that students can store materials without danger of losing them.)

c. Taking roll

(Roll should be taken as quickly as possible. Ideally, an honor system or check-off system can be used.)

d. Controlling tardiness

(Specific instructions and guidelines should be given at the beginning of the course. Infractions of the rules should be corrected without delay.)

e. Assigning students to classroom management activities such as cleaning up, caring for tools, and monitoring safety

(These duties should be rotated and shared by the entire class.)

6. Briefly describe the management system for a course you have taught, observed, or read about. Include a description of how the following activities are carried out:

a. diagnosing learning needs
b. selecting learning activities
c. selecting learning references
d. establishing time (the instructor) for assisting students
e. deciding upon evaluation exercises
f. maintaining a record of progress

In addition, explain:

g. Who decides which topics are to be taught?
h. Who decides when remedial work is required? (12.23)

(The specific response to this item depends on the particular topic the student selected. Check to be sure that all of the above topics were discussed in the answer.)

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